

2 OPERATIONAL DESCRIPTION

Typically the operational scenario of a system is explained completely. The products generated through the operational software capabilities are then identified and described. However, due to the large number of products NPPS creates and the complex processes that cause them to be generated, this UOG will explain the products in the context of the processes themselves. The batch job number and name will be identified after the process or report is described. For a detailed explanation of the individual products, refer to Appendix C.

2.1 Operational Scenario/Functional Data Flow

To gain an operational view of the overall functions of NPPS, the user must consider the three main cycles in NPPS processing (refer to Figure 2.1-1, Life Cycle Overview).

- Annual Events
- Employee Life Cycle
- Biweekly Pay Process

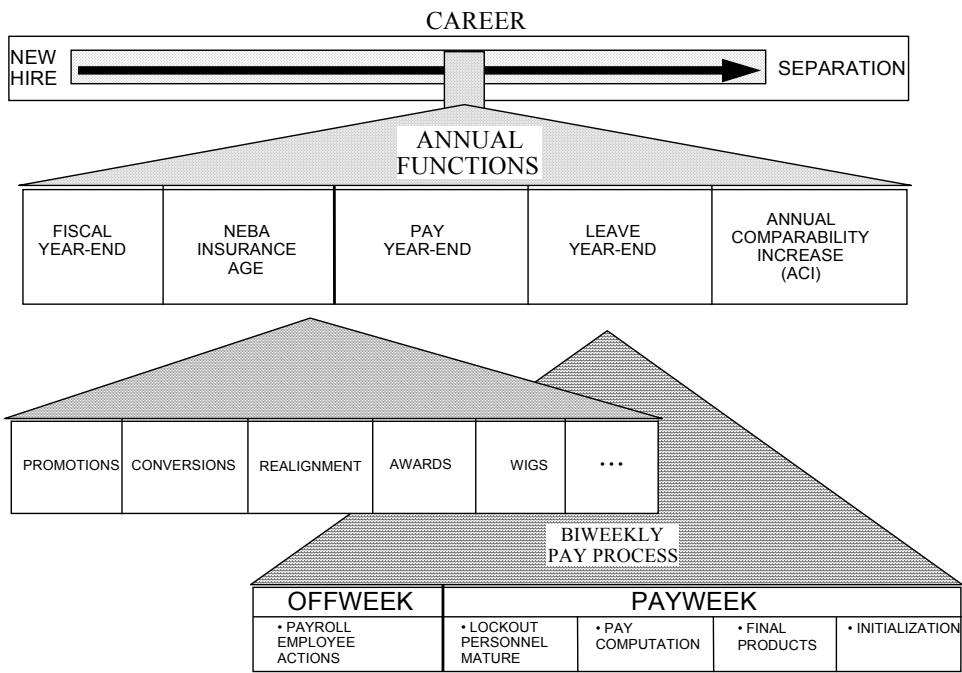


Figure 2.1-1 Life Cycle Overview

2.1.1 Annual Events

The five major annual events supported by personnel and payroll processing are listed by sequential order in the following sections. In some instances, this scenario may be altered according to the preferences of an individual installation. In addition, the Annual Comparability Increase (ACI) does not necessarily occur every year.

2.1.1.1 Fiscal Year-End

The payroll Fiscal Year-End batch processing (CA00015) is executed to initialize and compute the carry-over days for military leave (refer to Figure 2.1.1.1-1, Fiscal Year-End). These military leave days are carried over from the previous fiscal year to the new fiscal year. Processing takes place at the end of the fiscal year, September 30. During processing, the military leave year-end carry-over days are initialized and computed. See Appendix C for reports/products of the Fiscal End of Year process. (Refer to Figure 2.1.1.1-2, Fiscal Year-End Processes and Leave Year-End Processes.)

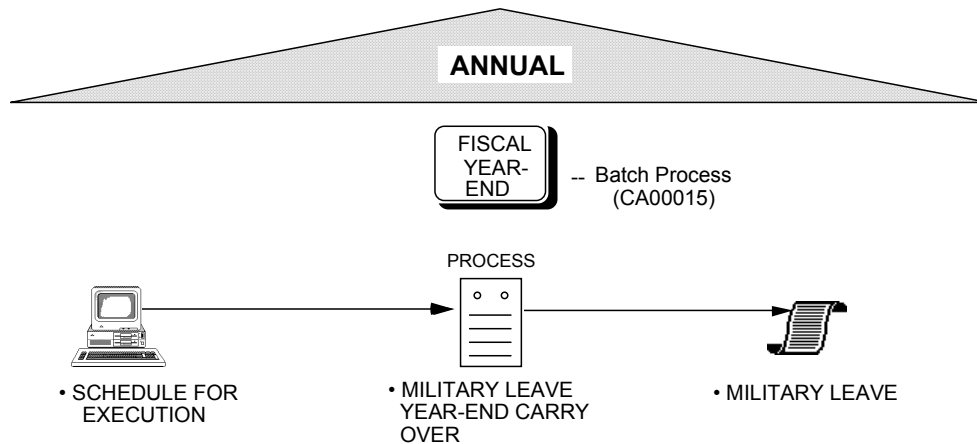
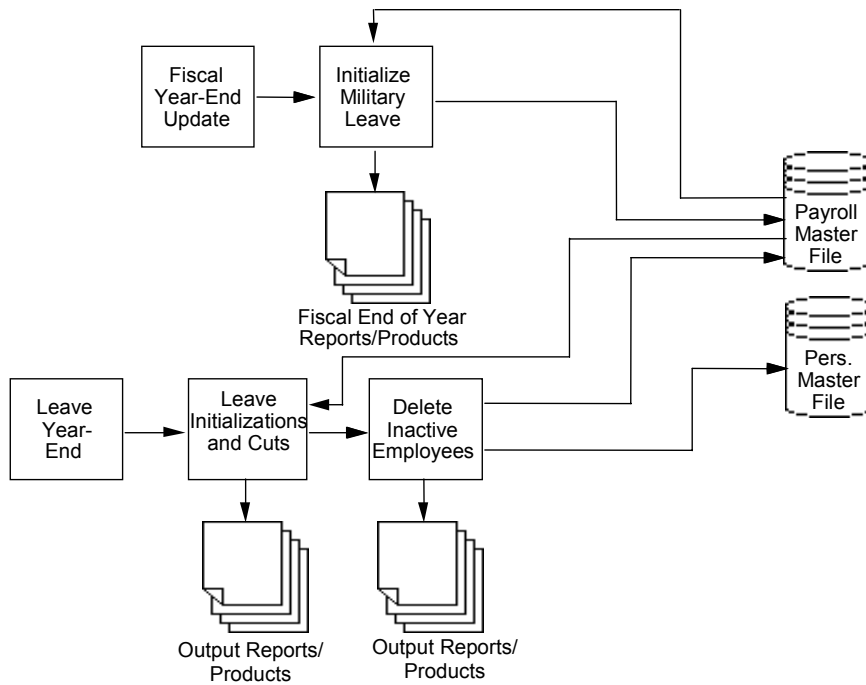


Figure 2.1.1.1-1 Fiscal Year-End



**Figure 2.1.1.1-2 Fiscal Year-End Processes
and Leave Year-End Processes**

2.1.1.2 NEBA Age Calculation

The purpose of the NASA employee's benefit association (NEBA) age calculation process (CA00006/CA00014) is to increment the NEBA age of each employee (refer to Figure 2.1.1.2-1, NEBA Insurance Age). The NEBA age is used by the normals computation and pay computation processes to compute the NEBA age class that, along with salary class, determines the applicable premium rate for the employee biweekly deduction.

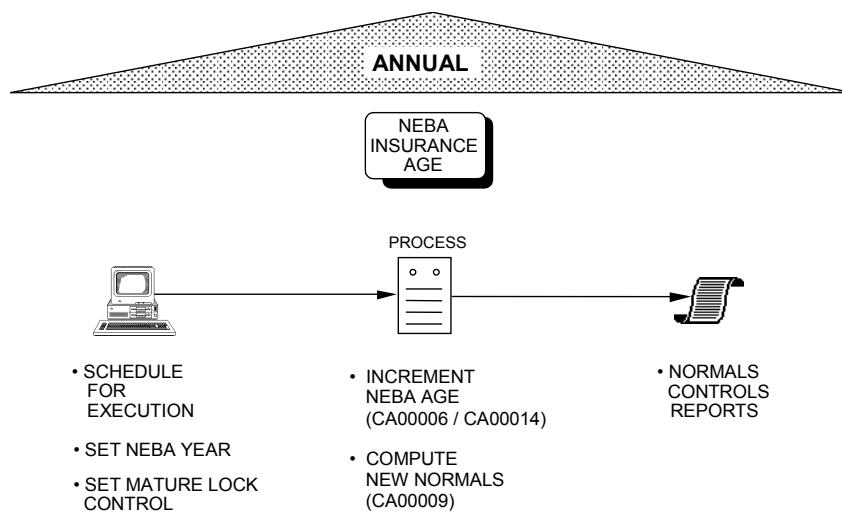


Figure 2.1.1.2-1 NEBA Insurance Age

The NEBA age calculation process occurs biweekly and again at approximately leave year-end to apply the new rate (assuming an age class change results) to the deductions that will be taken to pay for the NEBA insurance coverage for the next pay period (refer to Figure 2.1.1.2-2, Pay Year-End Processes and Age Processes NEBA).

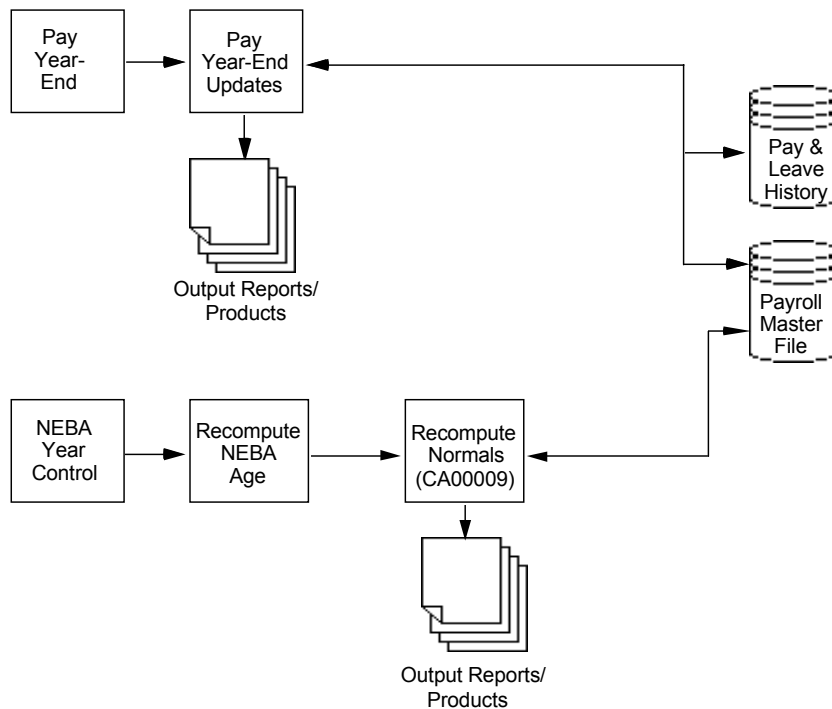


Figure 2.1.1.2-2 Pay Year-End Processes and Age Processes NEBA

The process is controlled by the setting of the NEBA year value in the payroll processing control template (CTLPAY). NEBA year value to derive the NEBA age of the employee. Therefore, the NEBA year must be set to the new value in the CTLPAY template before the NEBA age calculation process is executed.

Usually, the Normals Recomputation process (CA00009) will need to be executed after the NEBA age calculation to produce the new normals control for the NEBA deduction showing the new deduction amount for those employees whose NEBA age class has changed resulting from the new NEBA age (refer to Figure 2.1.1.2-3, Normals Recalculations).

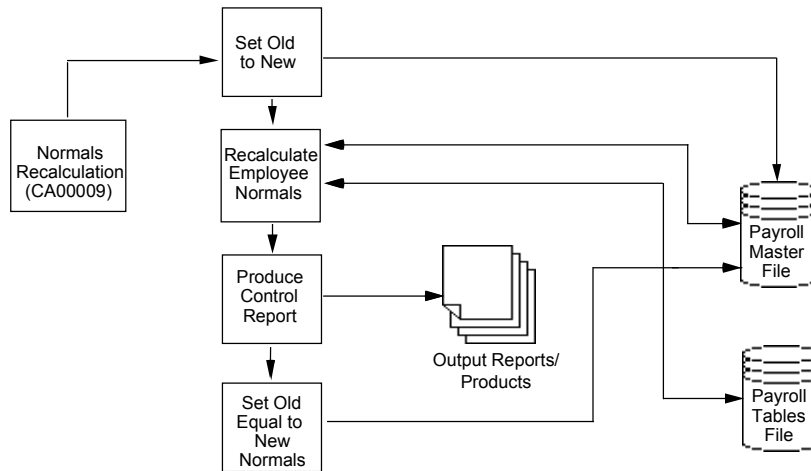


Figure 2.1.1.2-3 Normals Recalculations

2.1.1.3 Pay Year-End

During the Pay Year-End batch processing, all the products associated with the end of the pay year are created and the year-to-date (YTD) dollar amounts for the new pay year are initialized (refer to Figure 2.1.1.3-1, Pay Year-End). Pay Year-End is processed after the last pay period of the pay year is completed and before Initialization (CA00006). Table TEMPRID, which translates a State Tax Code to a State Employer ID to print in block 4 on the W-2 Form, must also be updated prior to the execution of Pay Year-End.

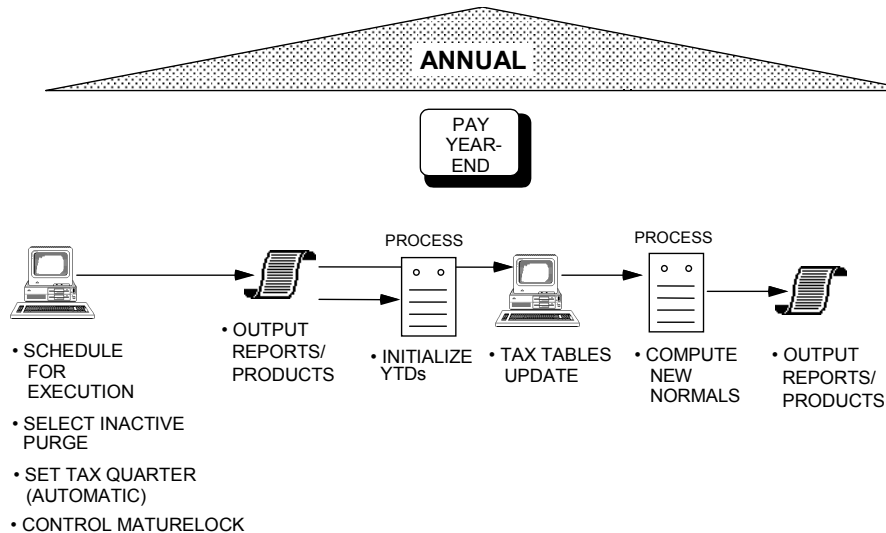


Figure 2.1.1.3-1 Pay Year-End

When Pay Year-End is being scheduled, parameters must be entered for reports and products. See Appendix C for outputs produced as a result of Pay Year-End.

After the completion of Pay Year-End processing and initialization (CA00006) for YTD fields, the installation's tax tables for the new year should be updated and the normals recomputation (CA00009) process is run to determine the new normals controls.

2.1.1.4 Leave Year-End

The Leave Year-End batch processing (CA00014) occurs before the first full pay period of January (refer to Figure 2.1.1.4-1, Leave Year-End). This means that leave year-end occurs during the pay period beginning in December and ending in January. The new Federal Employee Group Life Insurance (FEGLI) year is automatically updated in the Leave Year-End batch processing (CA00014).

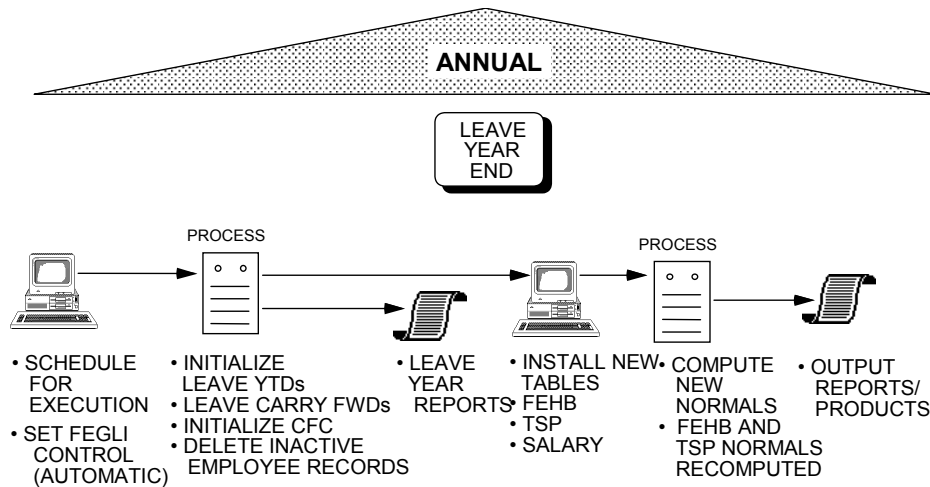


Figure 2.1.1.4-1 Leave Year-End

During the leave year-end processing, the leave year-end is closed out, YTD leave accumulators are initialized, annual and sick leave carry-over hours are computed, and LWOP Service Computation Date Hours are initialized. Combined Federal Campaign (CFC) deductions are initialized to zero for each employee who elected to have a CFC deduction for the previous year. Inactive employees are deleted from the current physical files according to selections identified by the installation during pay year-end processing, and their forwarding address is moved to the personnel history. See Appendix C for the outputs from the Leave Year-End process.

Tables should be installed prior to processing the next payroll. The normals recomputation process (CA00009) should be executed to determine new normals controls. The ACI should be executed to update the employees' salaries for the new year. After the completion of the ACI, new CFC deductions may be entered by payroll in mass.

2.1.1.5 Annual Comparability Increase

The ACI process generates a pay adjustment (NOAC 894) for each group of employees specified by the user (refer to Figures 2.1.1.5-1, ACI; and 2.1.1.5-2, ACI and GM Batch Processes). The new salary tables must be in place for the employee salaries to be loaded (refer to Section 2.1.1.4). A Standard Form (SF) 50 (Core Report 150) or a Memo in Lieu of an SF 50 (Core Report 151) should be produced for each employee who received a pay adjustment. Other non-pay actions (i.e., FEHB and TSP changes) that are effective the same day as the ACI will have their suspense sequence increased by one and SF 50 print status set to blank. SF 50s should be reprinted to correctly reflect the "From" salary as a result of the ACI being effective first.

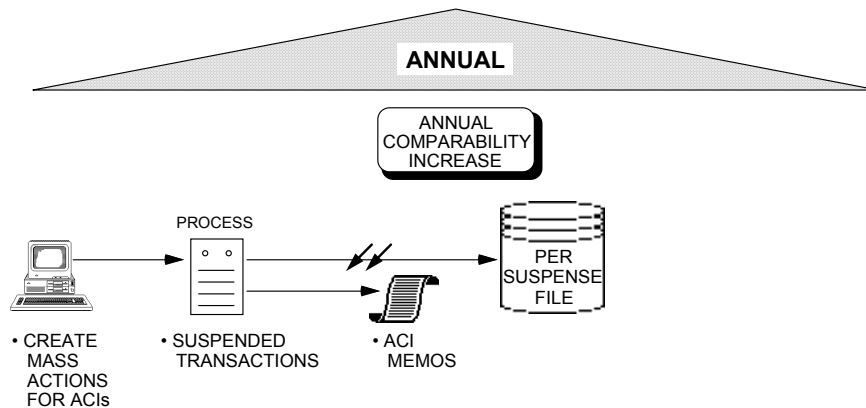


Figure 2.1.1.5-1 ACI

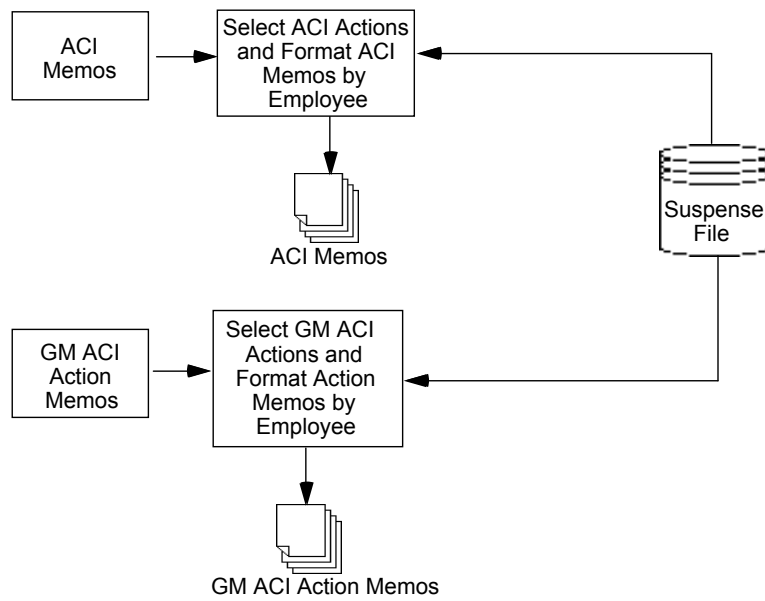


Figure 2.1.1.5-2 ACI and GM ACI Batch Processes

2.1.2 Employee Life Cycle

An employee life cycle with NASA begins on an employee's first day of work and ends on his/her last day of work at NASA (i.e., accession to separation). Personnel processes maintain the employee's record throughout the life cycle (refer to Figure 2.1.2-1, Personnel Processes).

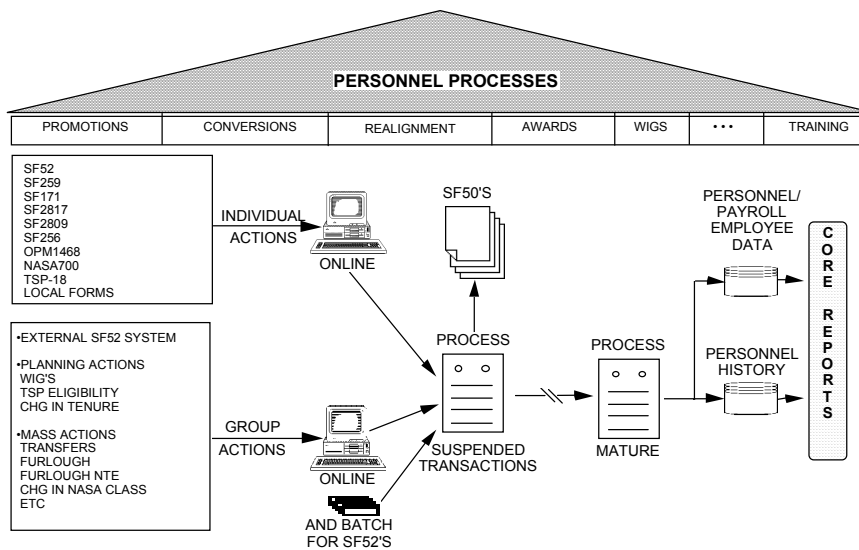


Figure 2.1.2-1 Personnel Processes

All personnel actions are placed on the suspense file and matured later according to their effective dates. This is true of individual actions (e.g., accessions) and group actions (e.g., mass transfers). Personnel actions are entered as individual actions or group actions.

Individual actions are entered online and include accessions, promotions, separations, etc. The source of data for individual actions is most often the SF 52. Other source documents for individual actions are SF 259, SF 171, SF 2817, SF 2809, SF 256, OPM 1468, NASA 700, and local forms.

Group actions are produced from planning actions or mass actions (refer to Figure 2.1.2-2, Planning Action Process and TSP Letter Process). These group actions may be executed online.

Planning actions involve a group of Within Grade (WIG) increases, a group of Changes in Tenure, or a group of changes in Thrift Savings Plan (TSP) status. See Appendix C for output reports or products resulting from the planning action process.

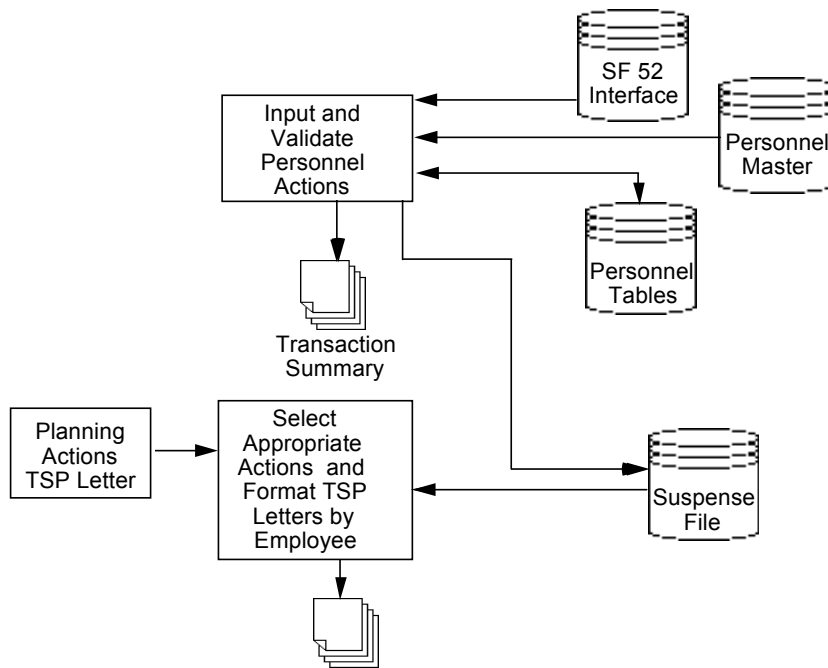


Figure 2.1.2-2 Planning Action Process and TSP Letter Process

Mass actions, similar to individual personnel actions, are applied against an entire group of employees versus a single employee. For example, a large number of employees transferring from one organization to another may be processed as a group, via the mass transfer capability, rather than individually. Not all personnel actions may be executed as mass actions. Section 4.1.9 provides more detailed information regarding mass actions.

For each personnel action placed on the suspense file, an SF 50 or SF 52 is produced (refer to Figure 2.1.2-3). The SF 50 or SF 52 may be produced online (NE0SF50/NE0SF52) or via a batch process (NE00400/NE00410). The suspended SF 50 transactions are then matured according to their effective dates. Mature transactions may be executed online or through a batch procedure (NE00008). See Appendix C for reports produced as a result of mature processing (refer to Figure 2.1.2-4).

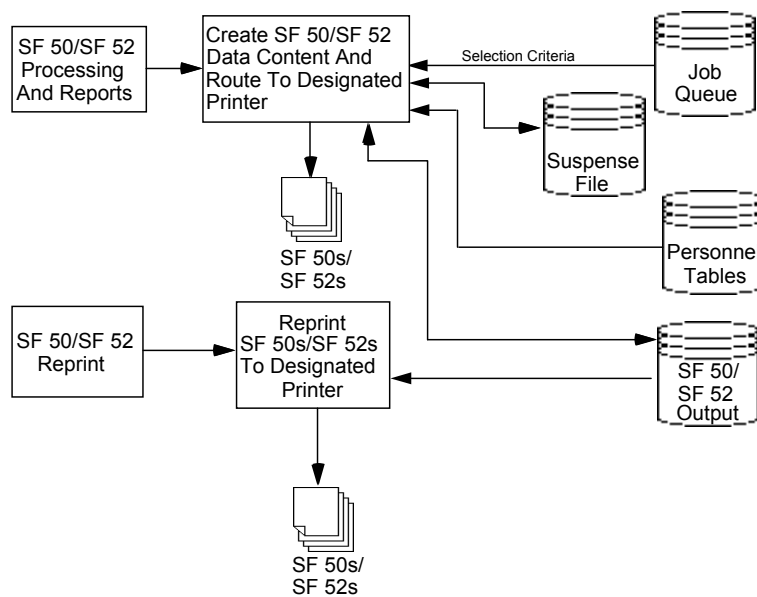


Figure 2.1.2-3 SF 50/SF 52 Processing

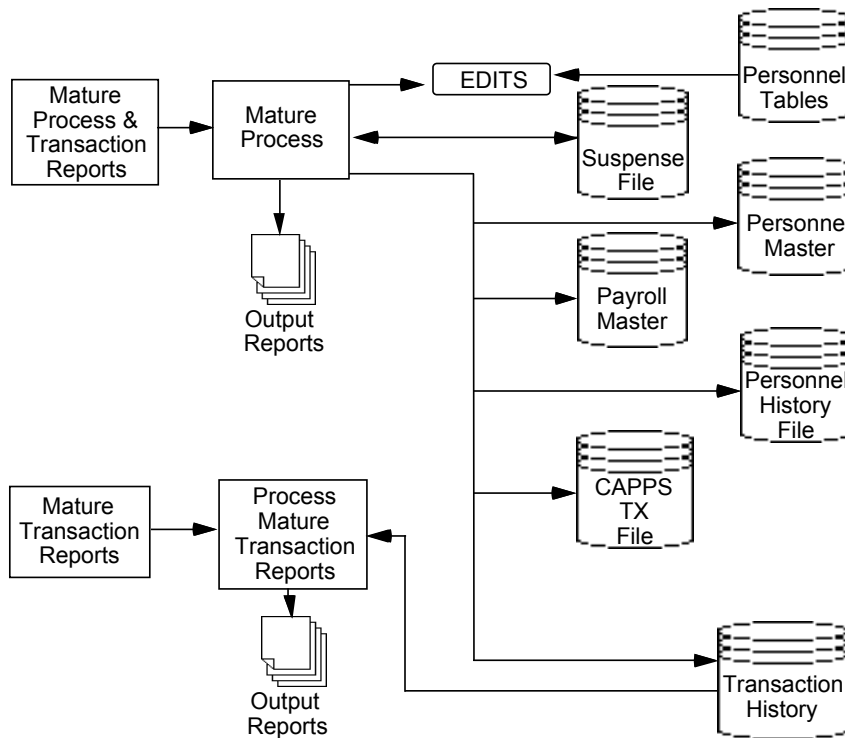


Figure 2.1.2-4 Mature Processes

Once matured, the actions update the master employee records and generate related core reports. Certain reports may be run daily to maintain a transaction audit trail of the daily activities. See Appendix C for the Daily Reports (NE00003).

2.1.3 Biweekly Pay Process

The Biweekly Pay Process is supported by payroll processing and is further divided into the Offweek and the Payweek. During the Offweek the employee master records are updated via payroll employee actions. Personnel mature is locked out during Payweek. At this time, pay is computed and final pay products are produced. At the end of Payweek, the payroll master file is initialized.

2.1.3.1 Offweek

During Offweek, the installation prepares to compute the pay of its employees (refer to Figure 2.1.3.1-1, Offweek). Each data entry professional has a payblock. At times, the members of a payblock must be reorganized because auditors limit the amount of time a given professional may maintain the same employee records.

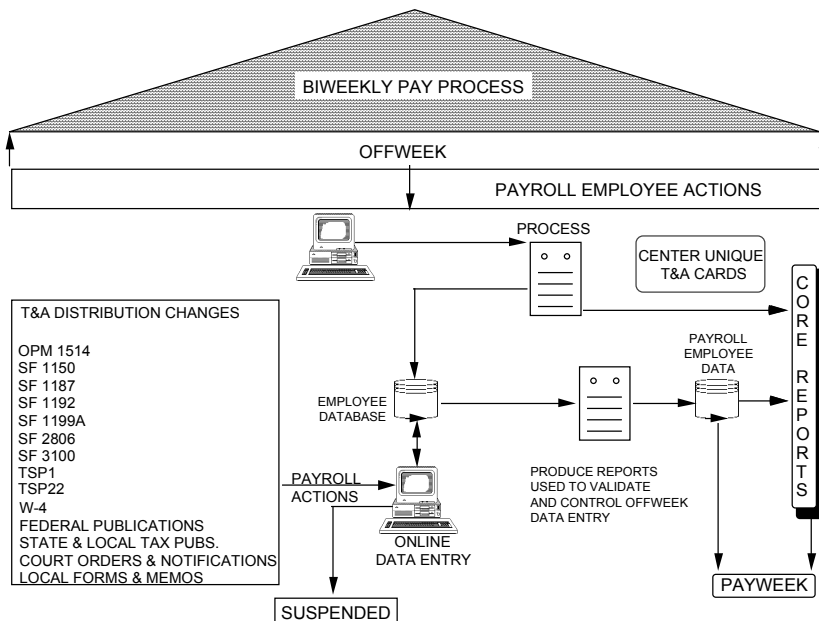


Figure 2.1.3.1-1 Offweek

The Payroll Mature Process for the pay period is executed to apply transactions on the suspense file for the current pay period to the employee master records and to recompute normals. The transaction history file then captures these matured transactions and produces the Transaction Report for payroll.

The personnel mature is unlocked so all actions affecting any employee's payroll may be input by both personnel and payroll and then matured. Payroll actions result from the following.

- Time and Attendance (T&A) distribution changes
- OPM1514
- SF 1150
- SF 1187
- SF 1192
- SF 1199A
- SF 2806
- TSP1
- TSP22
- W-4
- Federal Publications
- State and Local Tax Publications
- Court Orders and Notifications
- Local Forms
- Memos

Reports are then produced to validate and control the Offweek data entry. All reports are run individually at the request of the installation. All installations must produce T&A cards and/or labor distribution cards. NPPS does not support labor (i.e., no labor codes are included in the core capabilities).

2.1.3.2 Payweek

During Payweek, the installation computes its employee pay and produces payroll (refer to Figure 2.1.3.2-1, Payweek). At this time, personnel mature is locked out so payroll can baseline the normals and calculate the pay. The T&A process is provided to the payroll office via the transient storage pool area in a flat file format. Each center uses their own T&A process.

The CPO technical team runs a TSO submit job which updates the T&A in NPPS. No center is allowed to enter time into the system, unless it is for Errors and Missing timecards.

Initialization is the final step in the Payweek process.

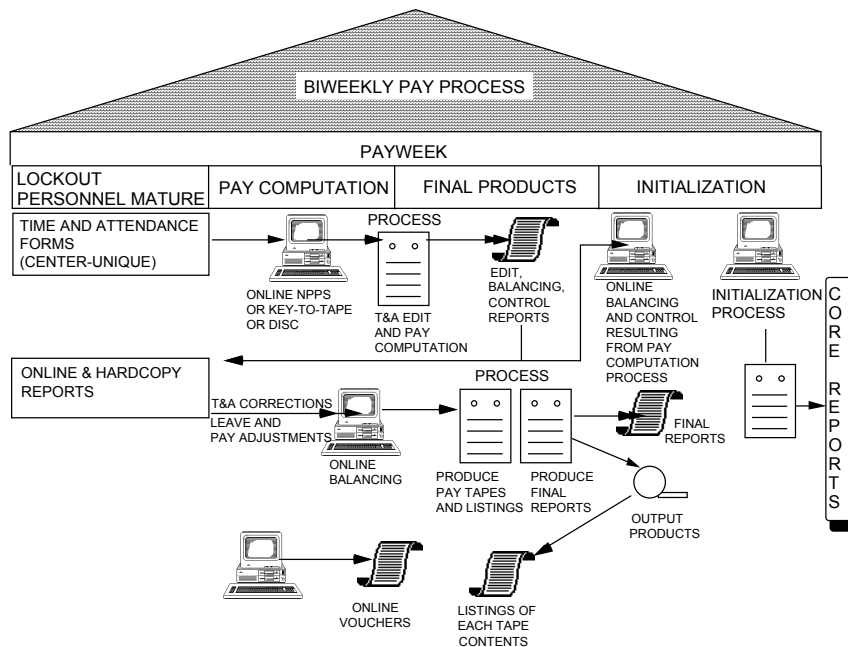


Figure 2.1.3.2-1 Payweek

The Payroll Batch T&A process (CA00003) is a core batch job which edits T&A data and reported hours when data is entered into the T&A file via batch processing. If the T&A data for an employee passes the edits, NPPS computes the T&A pay record for the employee. If the T&A data for an employee does not pass the edits, NPPS creates a T&A pay record and flags it as being in error. If T&A data for an employee is missing, NPPS flags the employee's T&A pay record as missing. NPPS also generates LWOP and severance pay T&A pay records for employees missing T&A data. See Appendix C for reports produced as a result of the T&A batch process (see Figure 2.1.3.2-2, T&A Batch Process).

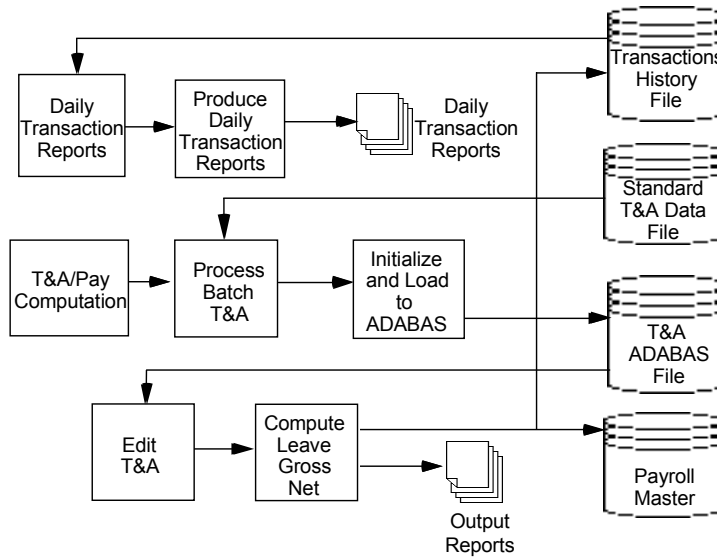


Figure 2.1.3.2-2 T&A Batch Process

After completing all error and missing timecard transactions, Payroll Final Reports (CA00004) is processed (see Figure 2.1.3.2-3). See Appendix C for output reports and/or products.

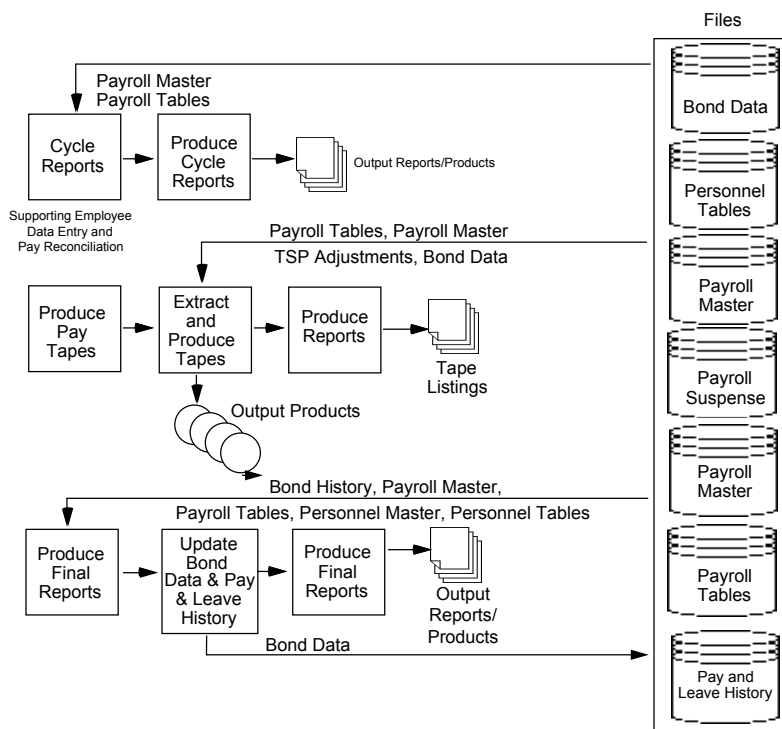


Figure 2.1.3.2-3 Payroll Final Products and Reports Processes

Initialization occurs at the end of the pay period. During initialization (CA000006)

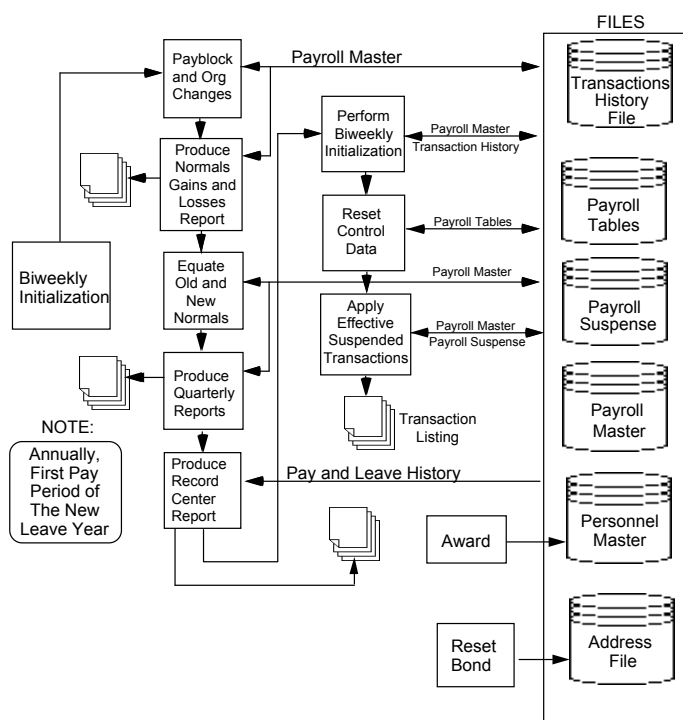


Figure 2.1.3.2-4 Initialization Process

SYSTEM CAPABILITIES

The processing described in the Operational Overview is accomplished through personnel processing, payroll processing, and personnel and payroll common processing functions. Following is a detailed description of the capabilities of each.

2.1.4 Personnel Processing

NPPS processes personnel data through a series of personnel actions. The system provides the capability to process all employee personnel actions described in the Federal Personnel Manual (FPM) by a Nature of Action Code (NOAC) and those identified by the agency (NOAC 900 series). (Refer to Figure 2.1.4-1, Personnel.)

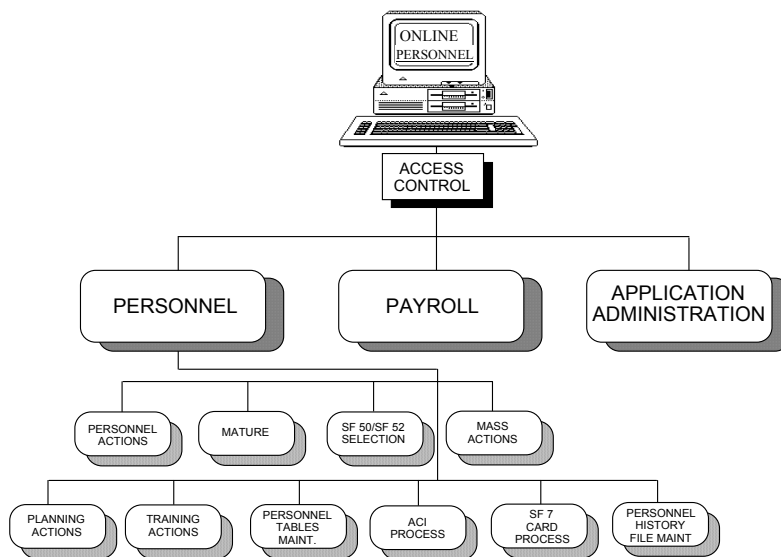


Figure 2.1.4-1 Personnel

During the processing of each NOAC, the list of those fields which are mandatory or optional input fields are displayed. Mandatory fields must be filled in so the action may be processed. Optional fields may be filled in if the information is relevant to the specific action being processed. As a result of this processing, a suspended personnel action is generated for each action.

Planning actions provide for advanced preparation of three specific personnel actions. The following personnel actions may be created and suspended for future maturation.

- WIG Increases (NOACs 891 and 893)
- Changes in Tenure (NOAC 880)
- Changes in TSP Eligibility (NOAC 943)

All information required for processing is available from the database or is system generated. Eligible employees are selected based upon the Eligibility Beginning and Ending Dates provided.

NPPS can generate suspended personnel actions for groups of employees which are defined. These actions are referred to as Personnel Mass Actions and include the following actions.

- Mass Transfers (NOAC 352)
- Furloughs (NOACs 471, 472, 473, and 772)
- Realignment (NOAC 790)
- Awards (NOACs 840, 841, 842, 843, 844, 845, 846, 847, 878, 879, 987, 988, and 989)
- Performance Rating (NOAC 990)
- Annual Comparability Increase (NOAC 894)
- NASA Class Code (NOAC 920)
- Change in Organization Name (NOAC 925)
- TSP Change (NOAC 943)

NPPS can print the SF 50 Notification of Personnel Action or SF 52 Request for Personnel Action for any employee action requiring an Office of Personnel Management (OPM)/NASA HQ NOAC. A dual SF 50/SF 52, two separate actions on the same SF 50/SF 52, may be printed for an employee having two or more personnel actions with the same effective date.

2.1.5 Payroll Processing

NPPS processes payroll employee actions and computes employee pay in accordance with the following publications (refer to Figure 2.1.5 -1, Payroll).

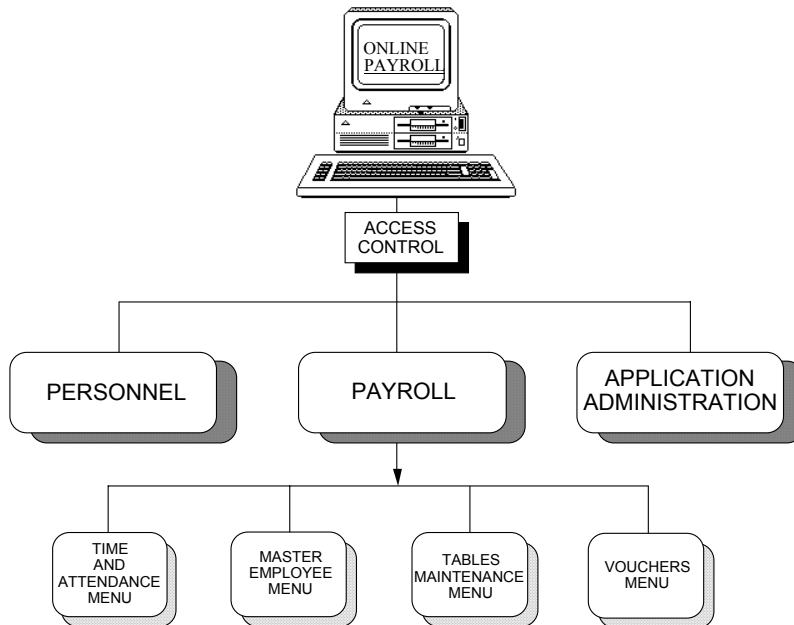


Figure 2.1.5-1 Payroll

- Federal Personnel Manual
- Treasury Fiscal Requirements Manual
- NASA Financial Management Manual
- NASA Management Instructions (NMI)

NPPS maintains the employee data necessary for computation of pay, maintenance of historical payroll processing results, and production of payroll products. The four categories of payroll action processing are as follows.

- Deductions
- Adjustments
- Administrative Employee Data
- Payroll Controls

NPPS computes leave and pay based on the entry of T&A data and payroll actions that affect current pay period earnings and deductions or leave balances. T&A data is the only source of current hours from which NPPS computes earnings. Each T&A transaction must pass field edits in order to be validated. NPPS computes the biweekly accrual of annual and sick leave and accounts for all paid and non-paid types of leave. NPPS computes the gross pay for each employee based on hours reported and/or from adjustments to base and gross earnings. NPPS computes the employee net pay by applying specific deductions from employee gross earnings.

2.1.6 Personnel and Payroll Common Processing

The processes described below are shared by personnel and payroll. The individual who administers these processes is referred to as the Application Administrator (refer to Figure 2.1.6-1, Application Administration).

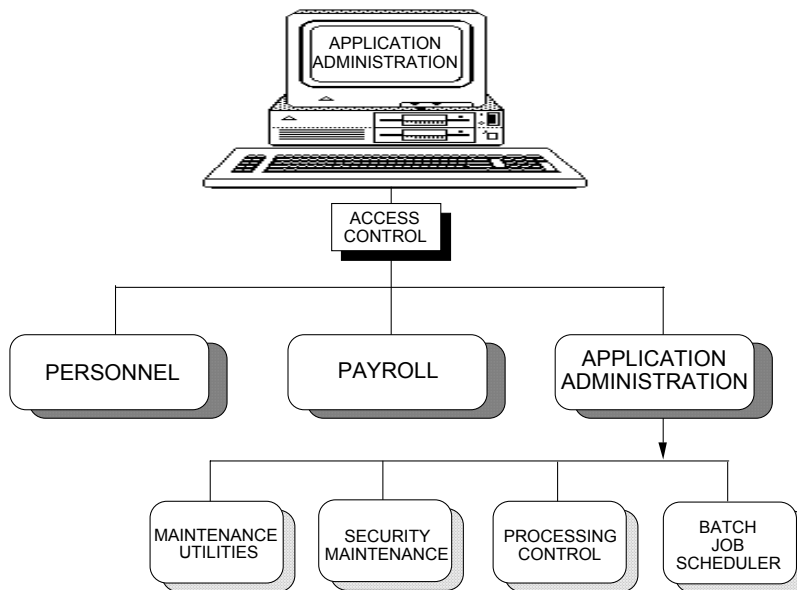


Figure 2.1.6-1 Application Administration

2.1.6.1 Database

Personnel and payroll processes access the same body of information. The NPPS database is organized in data categories based on data usage. The following table lists the categories (files) referred to in this document.

NPPS FILE DESCRIPTIONS

FILE NAME	CONTENTS
Personnel Master File	Contains employee information required by NASA HQ and represents the most current data for the employee based upon the last matured action.
Suspense File	Contains all transactions prior to their being matured. This file also includes all the information necessary to print the SF 50/SF 52 for the employee for each transaction. The only transactions which do not go to the suspense file are table updates.
Personnel Tables File	Contains the majority of the single field and relational edits supplied by HQ as well as all other tables as needed for use by the Personnel programs.
CAPPS TX File	Accumulates the transactions as they are matured and saves them for submission to CAPPS.
Personnel History File	Accumulates complete before and after images of the transactions as they are matured. These records will contain all of the fields stored in the Personnel Master File, as well as other identification information such as the action code and effective date of the action.
Payroll Master File	Contains employee information required to process payroll.
Payroll Tables File	Contains edit and computational data necessary for the computation of pay.
Pay and Leave History	Contains pay and leave information resulting from the pay processing for each employee for each pay period.
Transaction History	Contains the transaction data from Completed payroll update transactions and the NPPS information messages that were produced when the update transaction was processed, as well as an audit trail of all successfully completed transactions whenever any file is updated.
TSP Adjustments File	Contains the information needed to report the adjustments to an employee's Thrift Savings Plan deductions. The information is reported on the Thrift Savings Plan tape each pay period.
Address/Bond History File	Contains address information and the information required to process employee savings bonds after bond deductions computations.
Pay Suspense File	Contains payroll employee and table transactions (not T&A transactions) that are effective for a future pay period.

FILE NAME	CONTENTS
Job Directory File	Contains information that defines each batch job that can be executed using the NPPS Batch Job Scheduler.
Report Directory File	Contains information needed for report assembly and distribution for the reports that can be executed using the NPPS Batch Job Scheduler.
JCL Catalog File	Contains the job control language statements necessary to execute the jobs that have been defined to the NPPS Batch Job Scheduler.
Print Directory File	Contains the information necessary to identify the printers available to receive NPPS printed output produced from the batch jobs defined to the NPPS Batch Job Scheduler.
Job Queue File	Contains information about all NPPS batch jobs currently scheduled.
Log File	Contains program error information produced as a result of errors detected by ADABAS/NATURAL during execution of jobs using the NPPS Batch Job Scheduler.
Security File	Contains information defining the security profile of each individual that has been defined as a NPPS application user through the NPPS security maintenance function.
System Help File	Contains help information associated with all NPPS functions.
System Release File	Contains help information associated with new and/or modified capabilities that are being implemented in the latest NPPS software release.
System Table File	Contains such tables as the NPPS command table, as well as other tables which are of common use to both personnel and payroll processes.

Table 2.1.6.1-1 NPPS File Descriptions

2.1.6.2 *Access Control*

NPPS is a sensitive data processing application requiring special attention to system and data access. The user gains access to employee data through NPPS security. NPPS security is provided at the transaction level for each user. The user requires separate authorization for viewing or updating system data. Authorization is granted by a system administrator or authorized system user through the security administration functions provided by NPPS.

Each employee within the database is identified by social security number (SSN) and installation code. Access to employee data is limited to a single installation code for remote centers and multiple installations for the CPO office. An individual may not process an action against his/her own SSN.

2.1.6.3 *Help Facility*

The diversity of professionals who use the complex structure of NPPS requires that assistance be available to system users at all times. The help facility is available online to the system user from any NPPS process. The NPPS user is authorized, through the security administration function, to maintain the help information at the installation.

2.1.6.4 *Suspended Transactions*

Employee transactions may be collected and saved for future application to the database. Multiple transactions may be suspended for the same employee, whether or not the transactions have the same effective date. The sequence in which the transactions are to be applied to the database for those transactions with the same effective date may be specified. Any suspended transaction may be viewed, modified, or deleted.

2.1.6.5 *Transaction Mature*

Suspended transactions may be applied (matured) for all employees or selected employees based on the effective date specified. The maturation of the suspended transaction will update each employee's current master record.

All suspended transactions with an effective date on or before the date specified will be matured. All actions meeting the date criteria or only those actions for specific SSNs meeting the date criteria. Suspended transactions currently stored in an error condition will not be matured. NPPS automatically edits a suspended action unless it is specified that edits are to be bypassed (personnel actions only). If an action fails an edit, NPPS places the action in an error status and all subsequent actions for that SSN will not be applied to the employee master record (personnel actions only). Whenever this situation occurs, a message regarding the error condition will be received. Each employee record reflects the most current information as of the last transaction matured.

2.1.6.6 *History*

The results of database updates are captured to meet the three historical data requirements.

- Pay and leave history by pay period for each employee
- Personnel action transaction history for each employee
- Transaction audit trails of NPPS database maintenance

NPPS creates a cumulative pay and leave history for each employee for each pay period. This history includes all pay results and leave balances resulting from the pay period process, including pay adjustments.

Historical information is retained on all personnel transactions. Any historical data may be retrieved, modified, or deleted. At the time a personnel transaction is matured, a complete before-and-after image of the employee's data is captured and saved for historical purposes. This historical record includes the date the transaction matured, the employee's time in grade, and the employee's age when the transaction became effective.

Maintenance of any employee's personnel historical record(s) is based on the employee's SSN, the NOAC, and the effective date of the transaction. Any field within the record may be modified, including both the before-and-after images, and the entire record may be deleted.

NPPS retains a history of all transactions which have updated the database including the transaction values, an identification of the type of transaction, the date of the transaction, and the transaction indicator.

2.1.6.7 *Year-End Processing*

During Fiscal Year-End processing, NPPS initializes the military leave days accumulations to zero and carries over unused days between 1 and 15 for use in the following fiscal year.

During Pay Year-End processing, NPPS produces reports and output products (see Appendix C for the listing). The system also initializes all YTD earnings accumulations and deductions accumulations to zero.

During Leave Year-End processing, NPPS initializes leave YTD hour accumulations and leave cost accumulations to zero. The system also sets the amount of annual leave to be carried forward to the new leave year equal to the annual leave balance, provided that the balance is equal to or less than the annual leave ceiling. If the employee ceiling is greater than 240 hours (720 hours for Senior Executive Service [SES] [Pay Plan = ES] employees) and the balance is less than the ceiling, NPPS computes the new ceiling equal to the employee balance. For SES employees converted during the leave year, only the leave accrued prior to conversion in the current leave year will be subject to the 240-hour ceiling requirement.

NPPS initializes expired restored leave to zero and may delete all inactive employees from the database. The system also initializes the biweekly CFC deductions to zero.

2.1.6.8 *Reporting*

Due to the volume of data to be processed, NPPS must provide a method of processing bulk input and output. The system provides online and batch access to the system database containing personnel and payroll data. The online system is composed of the following three primary segments.

- Personnel
- Payroll
- Administrative

The personnel segment of the system contains all processing components required to add, maintain, and delete personnel data in the system. The payroll segment of the system contains all processing components required to process payroll for active personnel. The administrative segment of the system contains functions required for the authorized system user to access system components, maintain system table values, update help information, and perform other miscellaneous functions required in controlling user access.

Batch processes accommodate hardcopy output reports and input of large volumes of data to be processed by NPPS. A core set of reports is maintained by NPPS. These core reports contain processing information, employee information, management information, and regulatory reports as specified by NASA, the Office of Management and Budget (OMB), the OPM, and the US Department of Treasury. The core report formats are defined in the System/Software Requirements Specification for the NASA Personnel/Payroll System.

2.1.6.9 Batch Job Scheduling

NPPS allows the user to control the execution of the batch job process by selecting a batch process for execution, obtaining status for a previously elected batch process, and defining the order of batch process execution (refer to Figure 2.1.6.9-1).

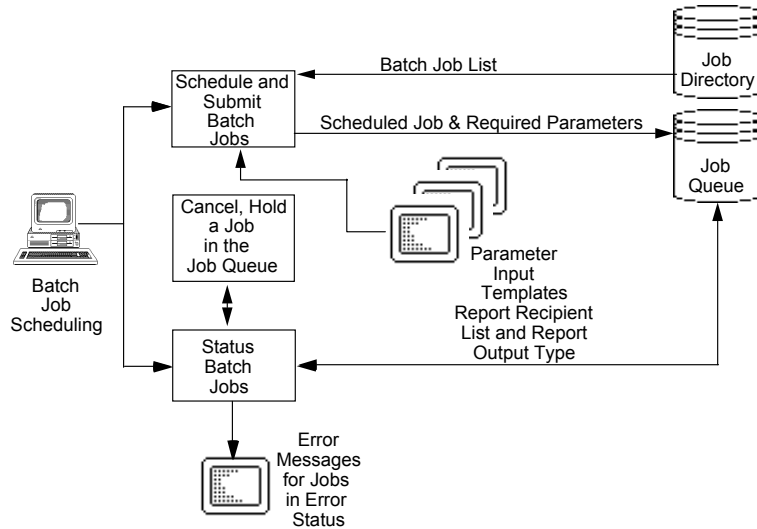


Figure 2.1.6.9-1 Batch Job Scheduler

2.1.6.10 Ad Hoc Reporting

Adhoc queries and unique reports for obtaining information from the NPPS database may be developed. This is accomplished through use of SUPER NATURAL, produced by Software AG.

2.1.6.11 Processing Controls

Through processing controls, the user is able to specify the routing of all hardcopy output, control the application of employee updates to the database, and schedule and obtain status for batch processes.

NPPS enables the user to assign available installation network printers for the purpose of routing hardcopy reports. Report assembly and distribution information including recipient name, location, assembly instructions, and number of copies may also be defined and maintained.

The database may be locked and unlocked for the purpose of preventing the application of suspended employee transactions to the database.

2.1.6.12 *Interfaces*

Standard external interfaces to other government and other agency systems are accommodated in NPPS. Standard interface file formats defined by these agencies are used for all data transfer between the agencies. NPPS provides output and input interface file formats for each standard interface application.

NPPS must provide a standard interface for the following external systems.

- US Department of Treasury
- SSA
- US Department of Agriculture (USDA) National Finance Center
- CAPPS
- NEBA
- HHS
- California State
- Maryland State
- Federal Reserve Bank - Pittsburgh
- Employee Express – OPM Macon
- TALX Work Number